Health professionals' and patients' perspectives on pelvic floor muscle training adherence—2011 ICS State-of-the-Science Seminar research paper IV of IV

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Abstract

Aims

There is scant information on pelvic floor muscle training (PFMT) adherence barriers and facilitators. A web-based survey was conducted (1) to investigate whether responses from health professionals and the public broadly reflected findings in the literature, (2) if responses differed between the two groups, and (3) to identify new research directions.

Methods

Health professional and public surveys were posted on the ICS website. PFMT adherence barriers and facilitators were divided into four categories: physical/condition, patient, therapy, and social-economic. Responses were analyzed using descriptive statistics from quantitative data and thematic data analysis for qualitative data.

Results

Five hundred and fifteen health professionals and 51 public respondents participated. Both cohorts felt "patient-related factors" constituted the most important adherence barrier, but differed in their rankings of short- and long-term barriers. Health professionals rated "patient-related" and the public "therapy-related" factors as the most important adherence facilitator. Both ranked "perception of PFMT benefit" as the most important long-term facilitator. Contrary to published findings, symptom severity was not ranked highly. Neither cohort felt the barriers nor facilitators differed according to PFM condition (urinary/faecal incontinence, pelvic organ prolapse, pelvic pain); however, a large number of health professionals felt differences existed across age, gender, and ethnicity. Half of respondents in both cohorts felt research barriers and facilitators differed from those in clinical practice.

Conclusions

An emphasis on "patient-related" factors, ahead of "condition-specific" and "therapy-related," affecting PFMT adherence barriers was evident. Health professionals need to be aware of the importance of long-term patient perception of PFMT benefits and consider enabling strategies.

INTRODUCTION

This paper presents the results of a 2011 survey of health professionals and the general public regarding pelvic floor muscle training (PFMT) adherence barriers and facilitators. It is the fourth of four papers, funded by the International Continence Society, emanating from the State-of-the-Science Seminar "Improving Pelvic Floor Muscle Training Adherence Strategies: From theory to practice" held in Glasgow prior to the 41st ICS Conference in 2011. The seminar was instrumental in developing the "2014 Consensus Statement on PFMT Adherence."

Based on Level 1 evidence, PFMT is used to prevent and treat urinary and faecal incontinence in men and women and pelvic organ prolapse (POP) in women; adherence is considered crucial to PFMT success.[1, 2] Thus, this survey aimed to elicit perspectives on PFMT adherence barriers and facilitators from health professionals and the public to investigate if their responses (1) broadly reflected the literature and (2) differed between these groups, and, consequently, (3) to make clinical and research recommendations.

METHODS AND MATERIALS

Methodology is reported according to the Checklist for Reporting Results of Internet E-Surveys protocol[3] and questionnaire-reporting research guidelines.[4]

Study Design

Surveys provide both quantitative and qualitative data; thus, a web-based survey was deemed the best tool to facilitate response-collation and to canvass a broad base of opinions. The ICS membership includes health professionals, researchers, and academics internationally in the field of incontinence, hence was considered representative of key stakeholders. An open-access convenience sample web-based English language survey was posted to the ICS website (no login or screening required). ICS staff downloaded data, imported summary responses into MS Excel, and transferred the files by email to the authors.

Informed Consent

Respondents' consent was ensured via a statement on the ICS website requiring acceptance before accessing the survey. Respondents were not contacted, coded or identified in any way.

Survey Administration

An internet-based survey software, SurveyMonkey® (www.surveymonkey.com) provided the survey platform.

Development and Testing

The survey's introduction included a background statement, time commitments (5–10 min), and key-term definitions. Among health professionals and the public, stakeholders were defined as anyone "who had an interest in incontinence, POP or pelvic-perineal pain or who had

experience with any of these conditions in a personal or support capacity." "Health professionals" were defined as health practitioners, academics, or researchers and the "general public" as patients, caregivers, or consumers.

There was no validated, published questionnaire specifically designed for this type of research; therefore one was designed (Appendix 1). Content and phrasing of the questions were informed by a database key-word subject search,[5] findings from existing literature, the authors' clinical experiences, and expert opinions from the 2011 seminar. Four categories of barriers and facilitators emerged as follows: (1) patient, (2) therapy, (3) physical/condition, and (4) social-economic factors (refer to Table I for examples). These factors drove the questionnaire design, which focused on short- and long-term PFMT adherence, not the initiation of a PFMT programme; a crucial distinction regarding sustained adherence.[2] Short-term adherence is higher than long-term[6]; thus, this survey was designed to compare differences in determinants. One question also assessed whether health professionals and the public perceived PFMT adherence determinants differentially for specific pelvic floor dysfunctions. Another question focused on whether PFMT adherence differed between research participants and clinical practice patients. No details regarding the mix of clinical caseloads or individuals' experience of conditions were sought.

Table I. Pelvic Floor Muscle Training Adherence Barriers and Facilitators: Quantitative Responses

What do you consider are the most important PFMT adherence*barriers*?	**Options**	**Health professional rating n = 513 (99.6%)***	**Public rating n = 50 (98%)***
(i). Physical/condition-related factors (5 options provided)	other co-existing health issues which take priority	1 (76%)	1 (68%)
	pain or discomfort when doing pelvic floor exercises	2 (68%)	2 (57%)
	significant bother or effect on quality of life	3 (60%)	4 (57%)
	severity of symptoms: moderate–severe	4 (58%)	5 (54%)
	duration of the condition: long-standing	5 (57%)	3 (57%)

What do you consider are the most important PFMT adherence*barriers*?	Options	Health professional rating n = 513 (99.6%)*	Public rating n = 50 (98%)*
(ii). Patient-related factors (8 options provided)	low level of motivation	1 (83%)	3 (78%)
	perception of minimal benefit/effectiveness of the exercises	2 (82%)	1 (81%)
	forgetting to do exercises	3 (78%)	5 (77%)
	poor identification with pelvic floor anatomy	4 (74%)	4 (77%)
	lack of understanding or knowledge about the condition	5 (74%)	7 (75%)
	reduced self-efficacy (belief in one's ability to carry out the exercises)	6 (71%)	2 (79%)
	lack of time	7 (70%)	8 (69%)
	negative attitude or beliefs associated with pelvic floor	8 (69%)	6 (75%)
(iii). Therapy-related factors (5 options provided)	lack of immediacy of beneficial effects, ineffective feedback of performance	1 (77%)	3 (72%)
	patient-therapist relationship: lack of connection, interaction does not motivate patient	2 (74%)	2 (77%)
	poor response to previous	3 (74%)	1 (79%)

What do you consider are the most important PFMT adherence*barriers*?	Options	Health professional rating n = 513 (99.6%)*	Public rating n = 50 (98%)*
	treatment (may have been ineffective treatment)		
	low enthusiasm of referrer for the efficacy of the treatment	4 (69%)	4 (72%)
	perceived complexity of treatment	5 (64%)	5 (69%)
(iv). Social/economic factors (3 options provided)	lack of effective support networks to reinforce adherence	1 (68%)	1 (74%)
	financial: inability to afford treatment	2 (66%)	2 (71%)
	level of education	3 (58%)	3 (56%)
Which category is the single most important barrier to PFMT adherence? (5 options provided)	Patient-related factors	1 (66%)	1 (56%)
	Therapy-related factors	2 (17%)	2 (20%)
	Physical/condition-related factors	3 (8%)	5 (2%)
	Social/economic factors	4 (5%)	3 (12%)
	Other	5 (3%)	4 (10%)
Which factor is the single most important barrier to SHORT-TERM adherence? (all	low level of motivation	1 (16%)	5 (6%)
	perception of minimal	2 (14%)	1 (20%)

What do you consider are the most important PFMT adherence*barriers*?	Options	Health professional rating n = 513 (99.6%)*	Public rating n = 50 (98%)*
21 options provided)	benefit/effectiveness of the exercises		
	lack of immediacy of beneficial effects, ineffective feedback of performance	3 (11%)	7 (4%)
	forgetting to do exercises	4 (9%)	3 (10%)
	lack of understanding or knowledge about the condition	5 (9%)	2 (12%)
	having negative or pessimistic feelings about the pelvic floor	7 (5%)	4 (8%)
	not feeling confident that the exercises can be done or managed successfully	12 (3%)	5 (6%)
Which factor is the single most important barrier to LONG-TERM adherence? (all 21 options provided)	forgetting to do exercises	1 (23%)	4 (8%)
	low level of motivation	2 (18%)	7 (6%)
	perception of minimal benefit/effectiveness of the exercises	3 (12%)	1 (16%)
	lack of effective support networks to reinforce adherence	4 (6%)	0 (0%)
	financial: inability to afford treatment	5 (4%)	3 (10%)

What do you consider are the most important PFMT adherence*barriers*?	Options	Health professional rating n = 513 (99.6%)*	Public rating n = 50 (98%)*
	other co-existing health issues which take priority	5 (4%)	8 (4%)
	no-one to help motivate the person to keep going with the exercises	4 (6%)	2 (12%)
	lack of time	5 (4%)	4 (8%)
What do you consider are the most important facilitators to PFMT adherence?	**Options**	**Health professional rating n = 435 (84.5%)***	**Public rating n = 40 (78%)***
*n represents the order in which that response was ranked from the list of options provided; (%) gives percentage of sample endorsing this option.			
(i). Physical/condition-related factors (4 options provided)	severity of symptoms: mild–moderate	1 (68%)	2 (56%)
	no/minimal other co-existing health issues competing for priority	2 (67%)	1 (71%)
	low current bother or effect on quality of life, fear of worsening	3 (65%)	4 (41%)
	duration of the condition: short duration	4 (58%)	3 (54%)
(ii). Patient-related	high degree of motivation	1 (93%)	3 (86%)

What do you consider are the most important facilitators to PFMT adherence?	Options	Health professional rating n = 435 (84.5%)*	Public rating n = 40 (78%)*
factors (8 options provided)	perception of significant benefit/effectiveness of the exercises	2 (92%)	1 (90%)
	good understanding or knowledge about the condition	3 (85%)	5 (79%)
	assist patient to build self-efficacy (belief in one's ability to carry out the exercises)	4 (85%)	2 (87%)
	positive attitude or beliefs associated with pelvic floor	5 (84%)	7 (77%)
	successful use of cues to remember to do exercises	6 (83%)	6 (77%)
	good identification with pelvic floor anatomy	7 (83%)	4 (82%)
	ability to prioritize time	8 (82%)	8 (76%)
(iii). Therapy-related factors (13 options provided)	patient-therapist relationship: good rapport, interaction motivates patient	1 (87%)	3 (85%)
	provide immediate beneficial effects (even if small)	2 (85%)	1 (88%)
	individualized treatment, modified over time	3 (84%)	2 (85%)

What do you consider are the most important facilitators to PFMT adherence?	Options	Health professional rating n = 435 (84.5%)*	Public rating n = 40 (78%)*
	high enthusiasm of referrer for the efficacy of the treatment	4 (82%)	8 (80%)
	assess patient outcome expectations, goal-setting	6 (80%)	7 (81%)
	the treatment seems like it be can managed, variety is provided	7 (79%)	4 (84%)
	previous treatment helped	5 (81%)	5 (83%)
(iv). Social/economic factors (3 options provided)	financial: treatment costs subsidized or fully covered	1 (73%)	1 (82%)
	effective support networks to reinforce adherence	2 (71%)	2 (72%)
	level of education/need for interpreter	3 (61%)	3 (71%)
Which category is the single most important facilitator to PFMT adherence? (5 options provided)	Patient-related factors	1 (60%)	2 (37.5%)
	Therapy-related factors	2 (34%)	1 (55%)
	Social/economic factors	3 (3%)	3 (2.5%)
	Physical/condition-related factors	4 (3%)	3 (2.5%)
	Other	5 (1%)	3 (2.5%)

What do you consider are the most important facilitators to PFMT adherence?	Options	Health professional rating n = 435 (84.5%)*	Public rating n = 40 (78%)*
Which factor is the single most important facilitator to SHORT-TERM adherence? (28 options provided)	perception of significant benefit/effectiveness of the exercises	1 (19%)	3 (10%)
	high degree of motivation	2 (18%)	1 (20%)
	provide immediate beneficial effects (even if small)	3 (11%)	2 (18%)
	patient-therapist relationship: good rapport, interaction motivates patient	4 (10%)	3 (10%)
	good understanding or knowledge about the condition	5 (10%)	10 (3%)
Which factor is the single most important facilitator to LONG-TERM adherence? (28 options provided)	perception of significant benefit/effectiveness of the exercises	1 (21%)	1 (15%)
	high degree of motivation	2 (18%)	3 (7.5%)
	successful use of cues to remember to do exercises	3 (8%)	10 (3%)
	follow-up appointments for maintenance programme	4 (7%)	3 (7.5%)
	good understanding or knowledge about the condition	5 (6%)	3 (7.5%)
	the treatment seems like it	14 (2%)	2 (10%)

What do you consider are the most important facilitators to PFMT adherence?	Options	Health professional rating n = 435 (84.5%)*	Public rating n = 40 (78%)*
	can managed, variety is provided		

Survey questions were trialled and refined and two versions of the same survey, tailored to either health professionals or the public were loaded on SurveyMonkey®, tested, and mock data extracted to ensure accuracy and feasibility. The public version was checked for lay-language appropriateness. Although formal reliability testing was not undertaken to improve standardization and reliability, the authors completed the questionnaire multiple times.

The two 8-question surveys spanned three webpages with a final, fourth page requesting demographic details. Closed (multiple choice) and open questions (3–8 per webpage) were included. To ensure maximum clarity and simplicity, the ordering of items was neither randomized nor alternated. Mandatory items were highlighted and incompletely answered surveys could not be submitted; however, eliminating multiple submissions from a single person was not possible. Respondents ranked multiple-choice questions on an 11-point scale, where one represented the most important response, 10 the least, and 11 “not applicable.” A summary question also requested “the single most important” adherence factor. Respondents were able to review and alter their answers (via a “previous” button) up until the final submission.

Recruitment Process

Electronic and print advertisements to participate in the survey were disseminated via the ICS, national continence foundations (USA, Canada, Australia), state and national physiotherapy newsletters, professional development courses, and health professionals’ waiting rooms. ICS members and non-members were encouraged to participate (refer to Appendix 2), although participation was voluntary. It was anticipated that many public respondents would not be ICS members, but among those notified of the survey via their treating clinician or a national continence newsletter. Known facilitators for increasing response rates to e-questionnaires, such as shortening the length of the survey, including a picture in the advertisement, using a white background, simple headings, and advertising a deadline, were utilized.[7] Commencement and completion of the survey were voluntary; no incentives were offered.

Data Analysis

Quantitative and qualitative data were extracted from the survey to enable mixed-method analysis. No weighting of responses was performed. Demographic data were analyzed as percentages. Comparisons between the two cohorts, single- and multiple-choice responses, were also analyzed as percentages; 95% confidence intervals were calculated.[8] Formal analysis of statistically significant between-group differences was not undertaken due to the imbalance in respondent numbers between the two cohorts and because respondents, targeted through the above described recruitment process, were not considered "random" samples. Responses to open-ended questions were analyzed qualitatively using content analysis.[9] Files were printed, read and re-read to attain immersion and to gain an overall impression of the data. Themes were formulated from the major categories.

RESULTS

Response Rates

The survey captured data from July 01 to September 30, 2011 (3 months). Unique website visitor or participant identification was not possible; hence, calculating the overall respondent completion rates or controlling for multiple survey completions by one individual was not possible. The health professional survey amassed 515 responses. Survey responses for this cohort, collected within the first 4 weeks (n = 483), were presented as interim data to the expert panel at the 2011 seminar. The ICS membership included approximately 2,430 health professional at the time of the survey; assuming all responses were derived from ICS members (unverifiable), the response rate was approximately 21%. The public survey response rate was considerably lower, only 37 in the initial 4 weeks. The data collection period for the public survey was extended to October 31; however, the total number of responses received after 4 months only reached 51.

A summary of the quantitative and qualitative data results is presented below.

Demographics of Respondents

Table II details respondents' demographics. Among the health professional cohort, most were female (n = 346, 86%; 95%CI: 0.82–0.89), 40–59 years in age (n = 132, 33%; 95%CI: 0.28–0.37) and from English-as-a-first-language countries (n = 326, 81%; 95%CI: 0.77–0.84); the United States represented the highest country-response rate (n = 152, 38%; 95%CI: 0.33–0.42). Physiotherapists represented the largest response by discipline (n = 293, 73%; 95%CI: 0.68–0.77). In the general public cohort, patients constituted the largest group (n = 24, 71%; 95%CI: 0.54–0.83) and although slightly older, their demographic characteristics were similar to the health professionals'.

Table II. Demographics of Survey Respondents

Group and responses (%)	Age range	n (%)	Gender	n (%)	Country of residence	n (%)	Profession/Background	n (%)
Health professionals n = 404/515 (78.5%)	20–29	29 (7.2%)	M	58 (14%)	USA	152 (37.6%)	–physiotherapist	293 (72.5%)
	30–39	93 (23%)	F	346 (86%)	Canada	67 (16.6%)	–medical doctor	74 (18.3%)
	40–49	132 (32.7%)			Australia	51 (12.6%)	–nurse continence advisor	16 (4%)
	50–59	115 (28.5%)			UK	38 (9.4%)	–health psychologist	0
	60–69	32 (7.9%)			Finland	11 (2.7%)	–exercise physiologist	2 (0.5%)
	70–79	3 (0.7%)			South Africa	10 (2.5%)	–other health care professional/scientist	9 (2.2%)
					Netherlands	9 (2.2%)		
					Ireland	8 (2%)	–researcher/academic	10 (2.5%)
					Total EFL	326 (81%)		
Public n = 34/51 (66%)	20–29	0	M	4 (11.8%)	USA	10 (29.4%)	–someone who has experienced one of these problems, or has tried pelvic floor muscle exercises in the past	24 (70.6%)
	30–39	9 (26.5%)	F	30 (88.2%)	UK	7 (20.6%)		
	40–49	7 (20.6%)			Australia	6 (17.6%)		
	50–59	12 (35.3%)			Canada	4 (11.8%)		
	60–69	6 (17.6%)			Netherlands	2 (5.9%)		
	70–79	0			Iran	2 (5.9%)	–looking after someone who has a problem with one of these conditions	9 (26.5%)
					Greece	1 (2.9%)		
					Spain	1 (2.9%)		
					Total EFL	27 (79.4%)	–working in an industry that is related to one of these conditions*	10 (29.4%)

*Responses were not mutually exclusive; EFL: # with English as a First Language.

Adherence Barriers

PFMT adherence barriers are shown in Table I. Both health professionals and the public rated "patient-related" factors as the most important PFMT adherence barrier and "therapy-related" factors as the second most important. While health professionals rated low motivation level as the single most important barrier to short-term adherence, the public rated the perception of minimal benefit (from PFMT) as the most important. The perception of minimal benefit was also the most important public-identified barrier to long-term adherence, whereas, health professionals rated forgetting to do exercises as the most important.

Adherence Facilitators

PFMT adherence facilitators are also shown in Table I. Health professionals rated "patient-related" factors as the most important short-term adherence facilitator, and "therapy-related" factors as the second; whereas, the public rated these options in reverse. Health professionals and the public agreed on the top four factors facilitating short-term adherence; both rated the perception of significant (PFMT) benefit as the most important factor for long-term adherence.

Qualitative Analyses of Barriers and Facilitators

Open responses regarding PFMT barriers were given by 132 of 513 health professionals (26%) and 20 of 50 public respondents (39%); PFMT facilitators elicited a similar response proportion from the public (16 of 40, 40%) but less from health professionals (30 of 435 health professionals, 6.8%). Based on qualitative content analysis, most responses were illustrative or descriptive of why a respondent had selected a particular closed response or ranking. However, some identified barriers and facilitators that had not been covered by the closed response section; refer to Table III.

Table III. Open Responses, Barriers and Facilitators

Additional barriers		Example response
Patient-related factors	Needs of others take priority	“Stress level in life of patient such as caring for ill parent, for child and unable to care for self or participate in treatments” (Health professional)
Therapy-related factors	Exercises are boring	“PFM exercises are not the most exciting or dynamic and can therefore get ‘boring’ after a while” (Health professional)
	Exercises lack salience	“Monotonous exercises (tricks) which are not associated with the everyday life of the person” (Health professional)
	Therapist knowledge	“Inadequate training of the therapist in order to be able to correctly identify the problem affecting the patient and apply a proper treatment to solve it” (Public)
Social/economic factors	Lack of suitable environment for exercise	“No privacy at home to do the exercises” (Public)
	Social norms	“Society still has this preconceived notion that the leaking is normal for women” (Health professional)
	Accessibility of therapy	“Difficulty getting transport to service provider” and “lack of availability for frequent follow up visits in public sector” (Health professional)
	Availability of specialist therapy resource	“Lack of specialized physiotherapy centers and well trained physiotherapists” (Health professional)

Additional facilitators		Example response
Physical/condition-related factors	Pain management	“Adequate pharmacological treatment for the pain” (Public)
Therapy-related factors	Therapist knowledge	“Finding a good therapist with pelvic floor knowledge is important… All previous consultants just told me to keep doing the exercise and to squeeze harder which didn't work” (Public)
Social/economic factors	Accessibility of therapy	“Ability to access treatment during times which women are not working or have child care” (Health professional)
	Availability of specialist therapy resource	“[Availability of] specialized physiotherapists in continence and pelvic floor dysfunction” (Health professional)

Differential Barriers and Facilitators of Pelvic Floor Conditions

A majority of health professional (n = 323, 63%; 95%CI: 0.59–0.67) and public (n = 33, 66%; 95%CI: 0.52–0.78) respondents felt that PFMT barriers did not differ between conditions; however, 190 health professional (37%; 95%CI: 0.33–0.41) and 17 public (34%; 95%CI: 0.22–0.48) respondents felt some differences existed. Of these, the majority of health professionals (87%) felt differences were most marked for pelvic-perineal pain; the majority of public respondents (83%) felt UI presented specific barriers. Similarly, a majority of health professional (n = 378, 87%; 95%CI: 0.83–0.90) and public (n = 32, 80%; 95%CI: 0.65–0.90) respondents felt that PFMT facilitators did not differ between PFM conditions; however, 57 health professional (13%; 95%CI: 0.10–0.17) and eight public (20%; 95%CI: 0.21–0.61) respondents felt there were some differences. The majority of health professionals (79%) felt the differences were most marked for pelvic-perineal pain, while the majority of public (80%) respondents felt both pelvic-perineal pain and UI presented specific differences. Health professional and public respondents felt that the presence of pain could act as both a barrier and facilitator.

Effect of Demographic Variables

The majority of health professionals (n = 260, 64%; 95%CI: 0.59–0.69) felt that age, sex, and ethnicity presented differences in barriers and facilitators; however, public respondents were evenly divided in this (yes: 49%; no: 51%). Both agreed on their order of importance: age, sex, and lastly ethnicity. The open responses revealed various barriers and facilitators in relation to demographic variables. Both health professional and public respondents suggested that an

Table IV. Open Responses, Clinical Practice and Research Differences in PFMT Determinants

Additional barriers	Example response
Cost of treatment	"I think there is still a financial barrier if patients have to pay for full course of pelvic floor physiotherapy treatment. I think a lot of people may stop or not persist by financial decision" (Health professional)
Health professionals giving less attention due to time constraint	"Lack of time and qualified staff are often barriers in clinical practice leading some health professionals to cut corners" (Health professional)
Controlled environment	"There are bigger barriers to adherence to pelvic floor exercises in the case of research groups, due to the fact that they need to be constantly controlled, remembered and motivated to realize the exercises given" (Public)
Intensive follow ups and reminders in research	"In research, patients are reminded and motivated, and protocols and follow-up are more rigidly adhered to" (Health professional)
Less burdensome in clinical practice	"Clinical practice: maybe less burden than in research (fill out questionnaires etc)" (Public)
More flexibility in clinical practice	"In clinical practice it is more fluid in that changes are made as dictated by patient response - whereas with research, things must be more fixed" (Health professional)

Additional facilitators	Example response
Voluntary participation in research	"I think the fact that people have agreed to participate in research already makes them more likely to be motivated to comply" (Health professional)
More specialised and dedicated staff involved in research	"Knowing they are treated by trained specialized researchers can help motivate. Research setting may make the therapist more motivated/engaging in approach (tone etc) over routine clinical practice" (Health professional)
Intensive follow ups and reminders in research	"In research, patients are reminded and motivated, and protocols and follow-up are more rigidly adhered to" (Health professional)

Additional facilitators	Example response
Less burdensome in clinical practice	“Clinical practice: maybe less burden than in research (fill out questionnaires etc)” (Public)
More flexibility in clinical practice	“In clinical practice it is more fluid in that changes are made as dictated by patient response - whereas with research, things must be more fixed” (Health professional)

Directions for Future Research

The final open question asked respondents to comment on future research directions in PFMT adherence and whether these should differ according to pelvic floor condition. A large number of health professionals (n = 406, 79%; 95%CI: 0.75–0.82) and the public (n = 37, 73%; 95%CI: 0.59–0.83) responded (Table V). Just over half of both cohorts (53% and 57%, respectively) felt future directions on PFMT adherence need not differentiate between conditions.

Table V. Open Responses, Directions for Future Research

The use of new technology (e.g. internet, social network, mobile phone apps) in encouraging adherence
Which educational approaches are most effective in enhancing adherence short and long term
(i). Effectiveness of patient education in anatomy/function on motivation to perform exercises
(ii). How does prescriber education about PFPT affect adherence by patients?
(iii). Media education on importance of PFMT: does it lead to greater adherence?
(iv). Use of different educational tools and how best to educate both providers and general public
Qualitative studies on patient perspective on adherence
Optimum exercise protocol for adherence

Comparison of age, cultural and gender groups in adherence
Effect of group classes on adherence
Effectiveness of reminder therapy to enhance adherence
Motivation and its role in outcome

DISCUSSION

This survey provides data from a large cohort of health professionals interested in PFMT adherence determinants in PFM dysfunction. The smaller public-cohort dataset is potentially less representative. Responses highlighted important findings in PFMT adherence determinants that generally supported the existing (predominantly UI-focused) literature[10, 11]but also identified important new findings. Support was found for the importance of self-efficacy. Divergence emerged between health professionals and the general public regarding the most important facilitator to PFMT adherence. Open-response questions elicited a rich pool of data for qualitative analysis. This was particularly surprising considering neither incentives nor rewards were provided for the survey, suggesting the topic was of considerable importance to both cohorts.

Adherence Barriers

There was agreement between health professionals and the public, in quantitative and qualitative responses, that “patient-related” factors were the most important adherence determinants; however, the cohorts differed within this category: health professionals considered that patients forget to exercise, whereas, the public highlighted the perception of minimal (PFMT) benefit. Assuming optimally delivered PFMT, therapy should be effective, but patients require visible or tangible results to maintain long-term adherence. As a PFMT barrier, health professionals felt patients prioritize the needs of others before their own; this accords with other qualitative studies[12, 13] that found the shifting-of-attention to other priorities presented a prominent PFMT barrier for women. In contrast to health professionals, there were no comments from the public cohort regarding family prioritization.

Adherence Facilitators

Health professionals also rated “patient-related” factors as the most important adherence facilitators. Conversely, the public rated “therapy-related” factors as major facilitators, possibly influenced by a perceived “locus of control”: individuals have control over their own limitations (patient-related) but not how or where the PFMT is taught (therapy-related). Both cohorts rated

the perception of significant (PFMT) benefit as the most important long-term adherence facilitator, again suggesting clinicians have an important role to play, since self-management (a patient-focused facilitator) might not be as effective as performance feedback. In contrast to published findings, symptom severity was not ranked highly as an adherence facilitator (i.e., the more severe the condition, the more adherent to PFMT[10]). Patient self-efficacy, identified as a PFMT adherence determinant in previous studies[10, 11]ranked more highly with the public than health professionals.

While this survey did not gather data on health professionals' caseload mix, the majority of respondents felt neither barriers nor facilitators differed according to PFM condition. This aligns with the identification, by health professionals and the public, of "patient-related" factors as the most important. Further, "physical/condition" factors rated third of five for health professionals, but was least important for public respondents, suggesting homogenous view of PFMT adherence determinants, regardless of condition.

Effect of Demographic Variables

Response variability for the effect of age, sex, and ethnicity on adherence suggests a need for individualization of therapy and patient/participant-centered approaches. Evidence from past literature is scant concerning these variables[10, 11] hence these results contribute to the small body of knowledge on this topic.

Clinical Practice and Research Differences

Although a slight majority supported the notion that research participants are more PFMT-adherent than clinical-practice patients, the open responses provided persuasive comments that the reverse could hold true.

Study Strengths

In addition to being web-based, therefore wide-reaching within the health professional population, representation was international, multi-disciplinary and provided a large pool of responses. Respondents broadly represented the professions encompassed in this category; hence, the results are considered generalizable.

Limitations

Surveys are not the most robust method to obtain data, especially self-reported information on professional behavior. A divergence between opinion and actual behavior can result in an intention-action disconnect and unknown response validity. However, limited project resources impeded more unbiased methods of data collection (e.g., video recording of consultations, use of simulated patients); other methods would likely have resulted in a smaller pool of responses. Needs assessments may also be better established through semi-structured interviews, focus groups, etc.; but are limited by time and resource constraints.

The limitations in interpretation and generalizability of the findings include the under-representation of non-English-speaking countries and low participation among nurse continence advisors (4%); given that many nurses work in settings lacking pelvic floor physiotherapists, they are often the primary PFMT providers. Responders did not reflect ICS membership category for medical doctors either, given they constitute the largest group of ICS members by discipline; however, they act primarily as a referrer to the intervention (of PFMT), not the provider, therefore may have considered the specific nature of this research question presented less direct relevance for them.

The low and imbalanced public response rate, compared with health professionals, was in all likelihood linked to the primary dissemination method, the ICS clinician-focused website, thereby limiting public awareness of the survey to those connected to a clinician or relevant organization. Significant effort was made by the authors and colleagues in many countries, to raise awareness of the public survey through local newsletters, patient and consumer organizations, notifications in waiting rooms, however, the take-up by the public was low; possibly a longer time-frame for advertising was required. Neither cohort of respondents could be considered a random sample, as the survey was web-based and, by necessity, targeted, preventing between-group statistical comparison and interpretation of response significance.

Other limitations may relate to respondents' interpretation of some terms or questions. PFMT is frequently applied as strength training, therefore, may not have been applicable for conditions requiring PFM relaxation training (e.g., pelvic pain). One multiple-choice response was "low level of motivation"; however, all barriers could lead to low motivation, hence this option was not adequately self-explanatory. As this survey did not investigate the health professionals' caseload mix or conditions experienced by public respondents, responses must be interpreted against this limitation. Despite these factors, the rich qualitative data provided by this survey will allow future investigations to be more specific and directed.

Future Research

Respondents also proposed incorporating the use of technology as detailed in Table V (internet, social network, mobile phone applications) and relevant behavior-change theories/models[2] in evaluating the effectiveness of adherence facilitators.

CONCLUSION AND RECOMMENDATIONS

Over 500 health professionals and a small public sample provided valuable data on PFMT adherence barriers and facilitators. Responses highlighted the need to undertake barrier and facilitator analysis when prescribing long-term PFMT and to apply patient/participant-specific strategies to ensure maximal adherence.

Clinical

(1) Patient-related factors may be the most important category of barriers to long-term PFMT adherence; these may include the patient's perception of minimal benefit of the therapy, reduced self-efficacy, poor identification with pelvic anatomy, and understanding of the condition, all of which may lead to low motivation to adhere to PFMT. Health professionals need to identify and address these factors. (2) Patient- and therapy-related factors may optimally facilitate long-term adherence; health professionals need to provide tangible evidence or feedback to patients on PFMT benefits. (3) Long-term adherence may be best achieved through follow-up appointments and a re-assessment of factors impeding progress; determinants may change over time. (4) An individualized approach to treatment based on a person's age, sex, and ethnicity is recommended. (5) The belief that PFMT-adherence determinants differ according to condition is not strongly supported; therefore, individualized patient-centered, as opposed to condition-centered, approaches are recommended.

Research

(1) Increase research into effective long-term PFMT-adherence facilitators, including sub-population investigations to inform demographic variations. (2) Investigate the use of technology and relevant behavior change theories/models in maximizing PFMT adherence.

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